

REMARKS

[0003] Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-26 are presently pending. Claims amended herein are: 1-14 and 20-25. Claims withdrawn or cancelled herein are: none. New claims added herein are: none.

Statement of Substance of Interview

[0004] The Examiner graciously talked with me—the undersigned representative for the Applicant—on January 23, 2008. Applicant greatly appreciates the Examiner's willingness to talk. Such willingness is invaluable to both of us in our common goal of an expedited prosecution of this patent application.

[0005] During the interview, I discussed how the claims differed from the cited art, namely Bokor. Without conceding the propriety of the rejections and in the interest of expediting prosecution, I also proposed several possible clarifying amendments.

[0006] I understood the Examiner to agree that independent claim 1 would be patentable over the cited art if amended as discussed during the interview.

[0007] Applicant herein amends the claims in the manner discussed during the interview. Accordingly, Applicant submits that the pending claims are allowable over the cited art of record for at least the reasons discussed during the interview.

Formal Request for an Interview

[0008] If the Examiner's reply to this communication is anything other than allowance of all pending claims, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

[0009] Please contact me or my assistant to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for us, I welcome your call to either of us as well. Our contact information may be found on the last page of this response.

Claim Amendments

[0010] Without conceding the propriety of the rejections herein and in the interest of expediting prosecution, Applicant amends claims 1-14 and 20-25 herein.

Substantive Matters

Claim Rejections under §101

[0011] Claims 1-11 and 12-13 have been rejected under 35 U.S.C. §101. In light of the amendments presented herein, as well as agreements reached during the Examiner interview, Applicant respectfully submits that claims 1-11 comply with the patentability requirements of §101 and that the §101 rejections should be withdrawn. The Applicant further asserts that these claims are allowable. Accordingly, Applicant asks the Examiner to withdraw these rejections.

[0012] Claims 12-13 have been rejected for reciting a computer readable media containing data structures. The Examiner contends that the recited program attributes and values do not impart functionality to a computer or computing device. Applicant respectfully traverses these rejections.

[0013] MPEP, §2106.01, subsection I., ¶1, which is titled "Functional Descriptive Material: 'Data Structures' Representing Descriptive Material *Per Se* or Computer Programs Representing Computer Listings *Per Se*" provides guidance regarding the patentability of data structures. The referenced paragraph states that "[d]ata structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 22 F.3d at 1316, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the

invention which permit the data structure's functionality to be realized. In contrast, a claimed computer readable media encoded with a data structure defines a structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory (MPEP §2106.01, I., ¶1) (Emphasis Added).

[0014] Claims 12-13 clearly indicate that the data structure is embodied on a computer storage media, and further recites structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized. Accordingly, Applicant respectfully requests that the §101 rejection of claims 12-13 be withdrawn.

Claim Rejections under §§ 102 and 103

[0015] Claims 1-26 have rejected under 35 U.S.C. §102 and/or §103. In light of the amendments presented herein and the decisions/agreements reached during the above-discussed Examiner interview, Applicant submits that these rejections are moot. Accordingly, Applicant asks the Examiner to withdraw these rejections.

[0016] The Examiner's rejections are based upon the following references alone and in combination:

- **Bokor:** *Bokor, et al.*, US Patent Publication No. 20040015998;

- **Eyal:** *Eyal, et al.*, US Patent No. 6,484,199 (Date of Patent November 19, 2002); and
- **Barrus:** *Barrus, et al.*, US Patent Publication No. 20050022122;
- **MacInnis:** *MacInnis, et al.*, US Patent Publication No. 20030028899.

Overview of the Application

[0017] The Application describes a technology for an asset definition framework for digital television (DTV) managed applications (see *Application*, Abstract). The Application further describes how an application-signal generator and manager allows content providers to deliver DTV applications and metadata associated with each of the managed applications to a cable head-end. In addition, it enables content providers to drive the data insertion equipment of the cable head-end. This asset definition of the application-signal generator and manager may be used to generate the application signaling used by receivers to discover and launch applications at the receiver. (see *Application*, ¶ [0019])

Cited References

[0018] The Examiner cites Bokor as the primary reference in the anticipation and obviousness-based rejections. The Examiner cites Eyal, Barrus and MacInnis as secondary references in the obviousness-based rejections.

Bokor

[0019] Bokor describes a technology for inserting commercial programming into an interactive television application. An interactive television application is sent to a user's set top box by either broadcasting the application or by writing it into the flash memory resident on the set top box. (see Bokor, ¶ [0024])

Eyal

[0020] Eyal describes a technology for a search request that is received over a network to play back media that satisfies the search criteria. (Eyal, Abstract)

Barrus

[0021] Barrus describes a technology for inputting and managing document collections. (Barrus, Abstract)

MacInnis

MacInnis describes a technology for downloading different versions of software or data modules. (MacInnis, Abstract)

Anticipation Rejections

[0022] Applicant submits that the anticipation rejections are not valid because, for each rejected claim, no single reference discloses each and every element of that rejected claim.¹ Furthermore, the elements disclosed in the single reference are not arranged in the manner recited by each rejected claim.²

Based upon Bokor

[0023] The Examiner rejects claims 1-4, 9-10, 14-17, 20 and 22 under 35 U.S.C. § 102(e) as being anticipated by Bokor. Applicant respectfully traverses the rejections of these claims. Based on the reasons given below, Applicant asks the Examiner to withdraw the rejection of these claims.

Independent Claim 1

[0024] Applicant submits that Bokor does not anticipate this claim because it does not show or disclose the following elements as recited in this claim. This amended independent claim recites in part a computer storage media having processor-executable instructions that, when executed by a processor, performs a method comprising (with emphasis added):

¹ "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); also see MPEP §2131.

² See *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

- **receiving, by head-end equipment from a content provider, a digital television (DTV) application and its associated metadata, wherein the receiving is facilitated by an asset definition interface;**
- **generating, by the head-end equipment, a data grouping having application signaling information, wherein the information is based upon the metadata associated with the DTV application**

[0025] The Examiner indicates (Action, p. 4) the following with regard to this claim:

As per claims 1, 20 and 22, Bokor teaches a processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising:

receiving a digital television (DTV) application and its associated metadata (receiving television application and related information, [0032], lines 9 - 12);

generating a data grouping having application signaling information, wherein the information is based upon the metadata associated with the DTV application (application being pre-coded with triggers, [0027], program information(metadata) containing options to display commercials, [0038], lines 1 - 4, data grouping being referred to as the combination of the application, commercials and commercial triggers, [0024, 0027]);

sending a transmission to a DTV receiving unit, wherein such transmission comprises the data grouping (sending application to STB, [0025], lines 1 - 6).

[0026] In this Action, the Examiner equates the interactive television application disclosed by Bokor with the "digital television (DTV) application and its associated metadata" recited in this claim. Applicant respectfully disagrees.

[0027] Bokor identifies that commercials are provided to a subscriber at the start of or during their use of an interactive television application (*Bokor*, Abstract); that an interactive television user loads and initiates the application (*Bokor*, ¶ [0027]); the interactive application receives notification to display a video asset upon receipt of a signal from the broadcaster (*Bokor*, ¶ [0031]); and the system can deliver commercials in connection with an interactive television application (*Bokor*, ¶ [0038]).

[0028] Boker does not disclose or teach **"receiving, by head-end equipment from a content provider, a digital television (DTV) application and its associated metadata, wherein the receiving is facilitated by an asset definition interface"**. Furthermore, Bokor does not disclose or teach **"generating, by the head-end equipment, a data grouping having application signaling information, wherein the information is based upon the metadata associated with the DTV application"**. As discussed above, Bokor describes communications between a broadcaster and a client device, such as a set-top box. Bokor does not disclose or teach using any metadata to control head-end equipment as recited throughout this claim. Furthermore, Bokor does not disclose or teach using any **"asset definition interface"** at any **"head-end equipment"**.

[0029] Consequently, Bokor does not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Independent Claim 9

[0030] Applicant submits that Bokor does not anticipate this claim because it does not show or disclose the following elements as recited in this claim. This amended independent claim recites in part a computer storage media having processor-executable instructions that, when executed by a processor, performs a method comprising (with emphasis added):

- receiving, by a digital television unit from head-end equipment, a transmission which includes application signal information about a digital television (DTV) application, wherein **metadata associated with the DTV application facilitates management and generation of the application signal information within the head-end equipment;**

[0031] In this Action, the Examiner equates the trigger or signal to notify an application that it is time to display a commercial disclosed by Bokor with the "metadata associated with the DTV application" recited in this claim. Applicant respectfully disagrees.

[0032] Instead, Bokor identifies that an interactive television application is sent to a user's set top box by either broadcasting 201 the application or by writing it into the flash memory 202 resident on the set top box (Bokor, ¶ [0027]); an interactive television user loads and initiates the application ... The application runs until it determines 204 that it is time to present a television commercial to the user. The application may, for example, be hard coded to include the display of commercials upon certain conditions or at predetermined times. There also may be

another application on the client device that is responsible for displaying commercials, which works in communication with the interactive application. Alternatively, the broadcaster may send a *trigger* or *signal* to notify an application that it is time to display a commercial (Bokor, ¶ [0027]). Note that the application is running on the client device, such as a set-top box. Additionally, the trigger is sent to the client device.

[0033] Bokor does not disclose or teach “**metadata associated with the DTV application facilitates management and generation of the application signal information within the head-end equipment**”. As discussed above, Bokor describes communications between a broadcaster and a client device, such as a set-top box. Bokor does not disclose or teach using any metadata to control head-end equipment as recited in this claim.

[0034] Consequently, Bokor does not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Independent Claim 14

[0035] Applicant submits that Bokor does not anticipate this claim because it does not show or disclose the following elements as recited in this claim. This amended independent claim recites in part a method for managing digital television (DTV) application signaling, the method comprising (with emphasis added):

- receiving, **by head-end equipment from a content provider**, a DTV application and its associated metadata, **wherein the metadata drives data insertion equipment at the head-end equipment**;
- constructing and formatting, **by the head-end equipment**, a DTV data service transmission which comprises the DTV application;
- generating, **by the head-end equipment**, a data grouping having application signaling information, wherein **the information is based upon the metadata associated with the DTV application**

[0036] In this Action, the Examiner equates the trigger or signal to notify an application that it is time to display a commercial disclosed by Bokor with the "metadata" recited in this claim. Furthermore, in this action, the Examiner equates the client device with the "**head-end equipment**" recited in this claim. Applicant respectfully disagrees.

[0037] Instead, Bokor identifies that an interactive television application is sent to a user's set top box by either broadcasting 201 the application or by writing it into the flash memory 202 resident on the set top box (Bokor, ¶ [0027]); an interactive television user loads and initiates the application ... The application runs until it determines 204 that it is time to present a television commercial to the user. The application may, for example, be hard coded to include the display of commercials upon certain conditions or at predetermined times. There also may be another application on the client device that is responsible for displaying

commercials, which works in communication with the interactive application. Alternatively, the broadcaster may send a trigger or signal to notify an application that it is time to display a commercial (Bokor, ¶ [0027]). Note that the application is running on the client device, such as a set-top box. Additionally, the trigger is sent to the client device.

[0038] Bokor does not disclose or teach **"wherein the metadata drives data insertion equipment at the head-end equipment"**. As discussed above, Bokor describes communications between a broadcaster and a client device, such as a set-top box. Bokor does not disclose or teach using any "associated metadata" to control head-end equipment.

[0039] Consequently, Bokor does not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Independent Claim 20

[0040] Applicant submits that Bokor does not anticipate this claim because it does not show or disclose the following elements as recited in this claim. This amended independent claim recites in part a digital television (DTV) application management system comprising (with emphasis added):

- a receiving means for receiving a digital television (DTV) application and its associated metadata **by head-end equipment** from a content provider;
- a generating means, **implemented in the head-end equipment**, for receiving a data grouping having application signaling information, wherein **the information is managed and generated based upon the metadata associated with the DTV application**;

[0041] In this Action, the Examiner equates the trigger or signal to notify an application that it is time to display a commercial disclosed by Bokor with the "metadata" recited in this claim. Furthermore, in this action, the Examiner equates the client device with the "**head-end equipment**" recited in this claim. Applicant respectfully disagrees.

[0042] Instead, Bokor identifies that an interactive television application is sent to a user's set top box by either broadcasting 201 the application or by writing it into the flash memory 202 resident on the set top box (Bokor, ¶ [0027]); an interactive television user loads and initiates the application ... The application runs until it determines 204 that it is time to present a television commercial to the user. The application may, for example, be hard coded to include the display of commercials upon certain conditions or at predetermined times. There also may be another application on the client device that is responsible for displaying commercials, which works in communication with the interactive application. Alternatively, the broadcaster may send a trigger or signal to notify an application that it is time to display a commercial (Bokor, ¶ [0027]). Note that the application is

running on the client device, such as a set-top box. Additionally, the trigger is sent to the client device.

[0043] Boker does not disclose or teach where in head-end equipment **“the information is managed and generated based upon the metadata associated with the DTV application”**. As discussed above, Bokor describes communications between a broadcaster and a client device, such as a set-top box. Bokor does not disclose or teach using any “associated metadata” to control head-end equipment.

[0044] Consequently, Bokor does not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Independent Claim 22

[0045] Applicant submits that Bokor does not anticipate this claim because it does not show or disclose the following elements as recited in this claim. This amended independent claim recites in part a digital television (DTV) application management system implemented in head-end equipment comprising (with emphasis added):

- A digital television (DTV) application management system **implemented in head-end equipment**
- an application signaling generator configured to generate a data grouping having application signaling information, **wherein the information is based upon the metadata associated with the DTV application**

[0046] In this Action, the Examiner equates the trigger or signal to notify an application that it is time to display a commercial disclosed by Bokor with the "metadata" recited in this claim. Furthermore, in this action, the Examiner equates the client device with the "**head-end equipment**" recited in this claim. Applicant respectfully disagrees.

[0047] Instead, Bokor identifies that an interactive television application is sent to a user's set top box by either broadcasting 201 the application or by writing it into the flash memory 202 resident on the set top box (Bokor, ¶ [0027]); an interactive television user loads and initiates the application ... The application runs until it determines 204 that it is time to present a television commercial to the user. The application may, for example, be hard coded to include the display of commercials upon certain conditions or at predetermined times. There also may be another application on the client device that is responsible for displaying commercials, which works in communication with the interactive application. Alternatively, the broadcaster may send a trigger or signal to notify an application that it is time to display a commercial (Bokor, ¶ [0027]). Note that the application is running on the client device, such as a set-top box. Additionally, the trigger is sent to the client device.

[0048] Boker does not disclose or teach where in head-end equipment "the information is based upon the metadata associated with the DTV application". As discussed above, Bokor describes communications between a broadcaster and a client device, such as a set-top box. Bokor does not disclose or teach using any "associated metadata" to control head-end equipment.

[0049] Consequently, Bokor does not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Obviousness Rejections

Lack of *Prima Facie* Case of Obviousness (MPEP § 2142)

[0050] Applicant disagrees with the Examiner's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a *prima facie* case have not been met.

[0051] The Examiner rejects claims 5-7, 11-12, 18-19, 21 23-24 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Bokor in view of Eyal. The Examiner rejects claims 8, 13 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Bokor in view of Eyal, in view of Barrus and in further view of MacInnis. Applicant respectfully traverses the rejection of these claims and asks the Examiner to withdraw the rejection of these claims.

Independent Claim 12

[0052] Applicant submits that Bokor in view of Eyal does not render this claim unpatentable because neither Bokor nor Eyal, alone or in any combination show or disclose the following elements as recited in this claim. This amended independent claim recites in part a computer storage media encoded with a data structure for metadata associated with a digital television (DTV) application received by head-end equipment from a content provider, the structure having fields comprising (with emphasis added):

- **wherein the metadata drives data insertion equipment at the head-end equipment**

[0053] In this Action, the Examiner relies on Bokor for the "metadata" recited in this claim. The Examiner equates Bokor's trigger or signal to notify an application that it is time to display a commercial with the "metadata" recited in this claim. Applicant respectfully disagrees.

[0054] Bokor identifies that an interactive television application is sent to a user's set top box by either broadcasting 201 the application or by writing it into the flash memory 202 resident on the set top box (Bokor, ¶ [0027]); an interactive television user loads and initiates the application ... The application runs until it determines 204 that it is time to present a television commercial to the user. The application may, for example, be hard coded to include the display of commercials upon certain conditions or at predetermined times. There also may be another application on the client device that is responsible for displaying commercials, which works in communication with the interactive application. Alternatively, the broadcaster may send a trigger or signal to notify an application that it is time to display a commercial (Bokor, ¶ [0027]). Note that the application is running on the client device, such as a set-top box. Additionally, the trigger is sent to the client device.

[0055] Boker does not disclose or teach "wherein the metadata drives data insertion equipment at the head-end equipment". As discussed above, Bokor describes communications between a broadcaster and a client device, such as a

set-top box. Bokor and Eyal do not disclose or teach using any metadata to control head-end equipment.

[0056] Consequently, Bokor in view of Eyal does not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Independent Claim 13

[0057] Applicant submits that Bokor in view of Eyal in view of Barrus in further view of MacInnis does not render this claim unpatentable because Bokor, Eyal, Barrus and MacInnis alone or in any combination do not show or disclose the following elements as recited in this claim. This amended independent claim recites in part a computer storage media encoded with a data structure for metadata associated with a digital television (DTV) application received by head-end equipment from a content provider, the structure having fields selected from a group consisting of (with emphasis added):

- **wherein the metadata drives data insertion equipment at the head-end equipment**

[0058] In this Action, the Examiner relies on Bokor for the "metadata" recited in this claim. The Examiner equates Bokor's trigger or signal to notify an application that it is time to display a commercial with the "metadata" recited in this claim.. Applicant respectfully disagrees.

[0059] Bokor identifies that an interactive television application is sent to a user's set top box by either broadcasting 201 the application or by writing it into

the flash memory 202 resident on the set top box (Bokor, ¶ [0027]); an interactive television user loads and initiates the application ... The application runs until it determines 204 that it is time to present a television commercial to the user. The application may, for example, be hard coded to include the display of commercials upon certain conditions or at predetermined times. There also may be another application on the client device that is responsible for displaying commercials, which works in communication with the interactive application. Alternatively, the broadcaster may send a trigger or signal to notify an application that it is time to display a commercial (Bokor, ¶ [0027]). Note that the application is running on the client device, such as a set-top box. Additionally, the trigger is sent to the client device.

[0060] Bokor does not disclose or teach "wherein the metadata drives data insertion equipment at the head-end equipment". As discussed above, Bokor describes communications between a broadcaster and a client device, such as a set-top box. Bokor, Eyal, Barrus and MacInnis do not disclose or teach using any metadata to control head-end equipment.

[0061] Consequently, Bokor, Eyal, Barrus and MacInnis alone or in any combination do not disclose all of the claimed elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Dependent Claims

[0062] In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant requests that the Examiner withdraw the rejection of each dependent claim where its base claim is allowable.

Conclusion

[0063] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call/email me or my assistant at your convenience.

Respectfully Submitted,

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